

# PRISM 800

## *Large Format, High Speed XYZ Coating System*

The PRISM 800 is a high performance coating system with programmable X-Y-Z motion and positioning for USI's proprietary nozzle-less ultrasonic spray head technology. The system delivers a thin, uniform application of a wide variety of coatings more precisely than other coating application techniques. This flexible and highly configurable platform is ideal for high-volume production operations.

### Features & Benefits

#### Proprietary ultrasonic spray technology

- Thin, defect free coating application
- Thickness down to sub-micron
- 95-99% transfer efficiency

#### Fully programmable X-Y-Z platform

- Large coating area
- High speed X-Y motion
- Precision ball screw actuators
- Configurable for specific requirements
- Fully integrated Windows 7 GUI
- State-of-the-art Ethernet based motion and I/O controllers

### Markets

- Display
- Fuel Cell
- Semiconductor Packaging
- Medical

### Options

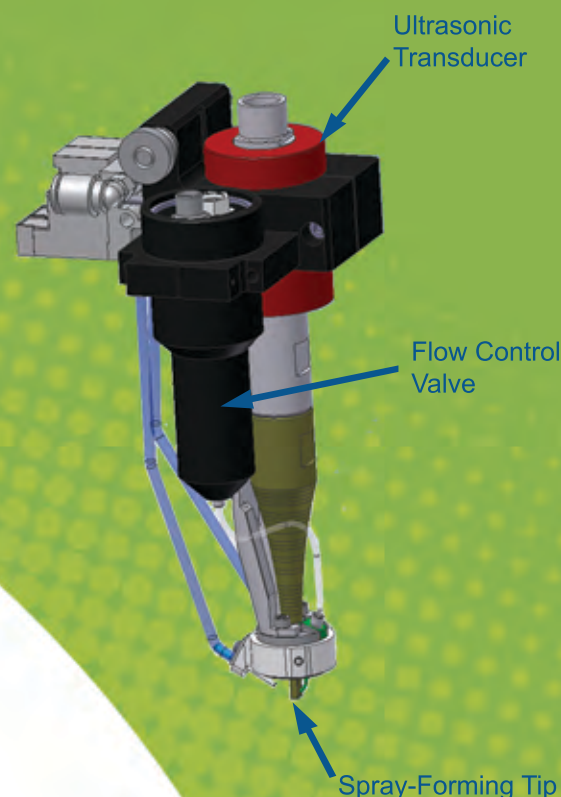
- Batch or in-line conveyor configuration
- Up to two PMP liquid delivery systems to supply two coating heads
- PMP-200 with stirring and recirculation
- Integrated liquid stirring or agitation
- Substrate heater with vacuum
- Head rotation and tilt
- Powered HEPA filter
- many others



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# Nozzle-less Ultrasonic Spray Head Technology

USI's core technology consists of proprietary nozzle-less ultrasonic spray head technology for the thin, uniform application of a variety of low viscosity materials. The spray head consists of an ultrasonic transducer with a spray-forming tip, an ultrasonic generator, an external liquid applicator, and air directors. Spray is produced with ultrasonic energy and shaped with low pressure air for a more precise and controlled coating application.



## PRISM 500 Coating System Specifications

### Coating Technology

#### Ultra-Spray CAT Head Assembly

- Ultrasonic frequency - 35 kHz, 45 kHz or 60 kHz
- Ultrasonic generator
- Electronic controls for liquid flow
- Electronic controls for air flow
- Single or tandem head operation

### Application Area (X,Y, Z)

- 800x800x100 mm (31.5x31.5x4 in) range of motion
- 780x720x100 mm (30.7x28.3x4 in) coating area

### Gantry Mechanism (X,Y)

- Precision ball screw actuators
- Brushless servo motor drive

### Z-Axis

- Lead screw actuator
- Stepper motor drive
- 100 mm travel & clearance above substrate

### ⊖ Motion (optional)

- 90-degree pneumatic rotate
- Pneumatic tilt & rotate

### Positioning Resolution

0.025 mm (0.001 in)

### Positioning Accuracy

+/- 0.05 mm (0.002 in)

### Gantry Speed (X-Y)

- 700 mm/sec (27.5 in/sec) maximum

### Conveyor (optional)

- 141 cm (55.5 in) pin chain conveyor, front fixed rail
- 51-819 mm (2-32.3 in) substrate width
- 813-965 mm (32-38 in) height
- Clearance: 100 mm above & 100 mm below pins
- Pneumatic substrate stop
- Width adjust
- SMEMA handshaking

### Programming

- Teach mode with laser pointer
- Barcode (optional)

### Control System

- Windows 7 Graphical User Interface
- Ethernet based motion and I/O controllers

### Liquid Delivery

#### Precision Metering Pump (PMP)

- 100 ml capacity (85 ml w/ stir option)
- 590 ml coating reservoir (option)
- Stepper motor drive
- Automatic pump refill (option)
- Liquid stirring option for suspended materials
- Dual PMP option for continuous operation

### Standards

- CE
- SMEMA
- NFPA 79

### Footprint (WxDxH)

141 x 142 x 195 cm (56 x 56 x 77 in)

### Weight

806 kg (1,800 lbs)

### Power Requirements

- 200/220 VAC, 50/60 Hz, 2.5KVA, single phase
- Voltage +/- 10% maximum variation

### Pneumatic Requirements

- Clean, dry compressed air at 5.5 bar (80 psi) @ 142 l/min (5 SCFM)
- 8,495 l/min (300 SCFM) exhaust in a 152 mm (6 in) duct
- Compressed nitrogen at 5.5 bar (80 psi)



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